IN THE CLAIMS

Please amend claims 1, 3 and 29 as follows:

1. (Currently Amended) A printing control system, comprising:

a plurality of printing units;

an image source providing a print job comprising a plurality of images; and

a system processing unit, wherein the system processing unit is configured to receive the plurality of images in the print job from the image source, calculate an image histogram for each image in the print job, determine a similarity of the images in the print job by comparing the calculated histograms, classify the images into ~~classes~~ at least a first and a second class based on the ~~comparison of the~~ similarity of the histograms, and send each of the ~~classes of~~ images of the first class to a respective one of the printing units.

2. (Original) The system of claim 1, wherein the system processing unit is adapted to compare the calculated histograms by calculating cross-correlation values between the images in the print job based on the histograms.

3. (Currently Amended) The system of claim 2, wherein the plurality of printing units includes at least a first printing unit and a second printing unit, wherein the number of classes equals the number of printing units and includes at least ~~a~~ the first class and ~~a~~ the second class, and wherein the first class of images is printed on the first printing unit and the second class of images is printed on the second printing unit.

4. (Original) The system of claim 2, wherein the cross-correlation values between the images in the print job are normalized and have a value of one of 0, 1, and between 0 and 1, wherein the value is 0 when the images are most dissimilar and is 1 when the images are most similar.

5. (Original) The system of claim 2, wherein the histogram for each image includes a multitude of bins each representing colors, and wherein calculating the cross-correlation

values includes calculating a normalized summation of the product of each color bin for the multitude of bins.

6. (Original) The system of claim 2, wherein the system processing unit is adapted to classify the images based on the comparison of the calculated histograms by forming a group for each of the images in the print job, and then adding other images to the group as image members of the group when the cross-correlation value between respective images is greater than a threshold value.

7. (Original) The system of claim 6, wherein the threshold value is between approximately 0.8 and approximately 0.95.

8. (Original) The system of claim 6, wherein the system processing unit is adapted to classify the images based on the comparison of the calculated histograms by also forming subgroups from the groups by regrouping groups that have image members in common.

9. (Original) The system of claim 8, wherein the system processing unit is adapted to merge groups that have at least half of the image members in common into subgroups.

10. (Original) The system of claim 8, wherein the system processing unit is adapted to regroup image members from groups having less than half of the image members in common into subgroups by computing an average cross-correlation value of each image member of the groups with each group to determine the group to which the image member belongs.

11. (Original) The system of claim 8, wherein the system processing unit is adapted to classify the images based on the comparison of the calculated histograms by also forming sets from the subgroups by merging subgroups that have similar image members.

12. (Original) The system of claim 11, wherein the system processing unit is adapted to classify the images based on the comparison of the calculated histograms by also forming

core classes from the sets by selecting the sets with the greatest number of image members as the core classes.

13. (Original) The system of claim 12, wherein the number of core classes is equal to the number of printing units in the system.

14. (Original) The system of claim 12, wherein the system processing unit is adapted to classify the images based on the comparison of the calculated histograms by also forming final classes from the core classes by adding any remaining image members of the sets to the core classes with which the sets are most similar.

15. (Original) The system of claim 14, wherein the system processing unit is adapted to determine which sets are most similar to which of the core classes by a progressive process wherein the number of image members in a core class increases each time a set is merged into one of the core classes.

16. (Original) The system of claim 1, wherein the printing units are each individual printers operatively coupled to the system processing unit.

17. (Original) The system of claim 1, wherein the printing units are each print engines contained in a single printer.

18. (Original) The system of claim 1, wherein the printing units are each printheads contained in a single printer.

19. (Original) A method of processing a print job including multiple images with a printing system including multiple printing units, comprising:

identifying the number of printing units in the system, the system including at least a first printing unit and a second printing unit;

calculating a histogram for each image in the print job;

comparing the histograms of the images in the print job to determine similarity between the images;

grouping the images into groups based on the similarity of the comparisons of the histograms;

sorting the images in the groups into classes, including at least a first class and a second class; and

sending the images to the printing units for printing, including sending the images from the first class to the first printing unit and sending the images from the second class to the second printing unit.

20. (Original) The method of claim 19, wherein comparing the histograms of the images includes calculating cross-correlation values between the images in the print job based on the histograms.

21. (Original) The method of claim 20, wherein the histogram for each image includes a multitude of bins each representing colors, and wherein calculating the cross-correlation values includes calculating a normalized summation of the product of each color bin for the multitude of bins.

22. (Original) The method of claim 20, wherein grouping the images into groups includes forming a group for each of the images in the print job, and then adding other images to the group as image members of the group when the cross-correlation value between respective images is greater than a threshold value.

23. (Original) The method of claim 22, wherein sorting the images in the groups into classes includes forming subgroups from the groups by merging groups that have image members in common.

24. (Original) The method of claim 23, wherein forming subgroups from the groups includes merging into respective subgroups groups that have at least half of the image members in common.

25. (Original) The method of claim 23, wherein forming subgroups from the groups includes sorting into respective subgroups image members from groups that have less than half of the image members in common by computing an average cross-correlation value of each image member of the groups with each group to determine the group to which the image member belongs.

26. (Original) The method of claim 23, wherein sorting the images in the groups into classes further includes forming sets from the subgroups by merging subgroups that have similar image members.

27. (Original) The method of claim 26, wherein sorting the images in the groups into classes further includes forming core classes from the sets by selecting the sets with the greatest number of image members as the core classes.

28. (Original) The method of claim 27, wherein sorting the images in the groups into classes further includes forming the classes from the core classes by adding any remaining image members of the sets to the core classes with which the sets are most similar.

29. (Currently Amended) A printing control system, comprising:

a plurality of printing units;

an image source providing a print job comprising a plurality of images; and

processing means for receiving the plurality of images in the print job from the image source, for calculating an image histogram for each image in the print job, for comparing the calculated histograms and determining a similarity of the images in the print job, for classifying the images into classes based on the similarity of the comparison, and for sending each of the ~~classes of~~ images in a class to a respective one of the printing units.

30. (Original) The system of claim 29, wherein the processing means compares the calculated histograms by calculating cross-correlation values between the images in the print job based on the histograms.

31. (Original) The system of claim 30, wherein the plurality of printing units includes at least a first printing unit and a second printing unit, wherein the number of classes equals the number of printing units and includes at least a first class and a second class, and wherein the first class of images is printed on the first printing unit and the second class of images is printed on the second printing unit.

32. (Original) The system of claim 30, wherein the histogram for each image includes a multitude of bins each representing colors, and wherein calculating the cross-correlation values includes calculating a normalized summation of the product of each color bin for the multitude of bins.

33. (Original) The system of claim 30, wherein the processing means classifies the images based on the comparison of the calculated histograms by forming a group for each of the images in the print job, and then adding other images to the group as image members of the group when the cross-correlation value between respective images is greater than a threshold value.

34. (Original) The system of claim 33, wherein the processing means classifies the images based on the comparison of the calculated histograms by also forming subgroups from the groups by regrouping groups that have image members in common.

35. (Original) The system of claim 34, wherein the processing means merges groups that have at least half of the image members in common into subgroups.

36. (Original) The system of claim 34, wherein the processing means regroups image members from groups having less than half of the image members in common into subgroups

by computing an average cross-correlation value of each image member of the groups with each group to determine the group to which the image member belongs.

37. (Original) The system of claim 34, wherein the processing means classifies the images based on the comparison of the calculated histograms by also forming sets from the subgroups by merging subgroups that have similar image members.

38. (Original) The system of claim 37, wherein the processing means classifies the images based on the comparison of the calculated histograms by also forming core classes from the sets by selecting the sets with the greatest number of image members as the core classes.

39. (Original) The system of claim 38, wherein the processing means classifies the images based on the comparison of the calculated histograms by also forming final classes from the core classes by adding any remaining image members of the sets to the core classes with which the sets are most similar.